

# White Paper

Report ID: 109495

Application Number: HG-50046-13

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Reporting Period: 6/1/2013-5/31/2016

Report Due: 8/31/2016

Date Submitted: 9/1/2016



# Aegaron-Illustrated Standardized Terminology

NEH grant number HG-50046-13

White Paper

August 31, 2016

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## Introduction

Architectural idiom, as any specific terminology, reflects a world of thought based on organizing principles, implicit classifications, mind sets, as well as social and professional positions. The language of craftsmen and of researchers often overlaps only partly and inconsistently.<sup>1</sup> Efforts to systematize architectural terminology invariably are faced with the constraints of language in its relation to particular times, regions and human organizational principles. While developing the Aegaron project (2009-2012 HG-50012-09), an open access web resource where vetted and standardized architectural drawings of ancient Egyptian buildings can be viewed, compared and downloaded, the team was faced with the consequences of the limitations and problems of terminology used to describe ancient Egyptian architecture. An inventory of commonly used vocabulary in the literature, brought to light that terms were often used inconsistently, and without theoretical considerations. Partly, this seems to be caused by an attempt to use the well-developed Classical architectural terminology. But what does the Greek term *pronaos* actually refer to when applied to Egyptian architecture? Is a certain type of support a column or a pillar? How to specify the different parts of a door, which has no resemblance to any doors encountered in Greek contexts? Since ancient Greek and Roman architecture differ fundamentally from Egyptian building technology and style, a casual or impromptu adaptation of a terminology which does not quite “fit” leads to haziness, inconsistencies and misunderstandings. Aegaron-IST therefore provides a systematic, hierarchical overview of Egyptian architectural terms, illustrated with standardized drawings and photographs of architectural elements and details in the context of the original buildings.

Aegaron-IST illustrates architectural details which are defining parts of buildings, such as elements that are functional (doors, windows, spouts, etc.); constructive (columns, clamps, bosses, repairs, etc.) and ornamental (capitals, friezes, etc.). Terms that describe whole buildings or types of buildings (*pronaos*, *pylon*, *kiosk*, etc.) have been covered likewise. A controlled vocabulary in three languages, Arabic, English and German, is the backbone of this new repository, while all terms have been linked to the controlled vocabulary of the Getty Art and Architecture Thesaurus <http://www.getty.edu/research/tools/vocabularies/aat/>. The terminology provides alternative terms and disambiguations. The individual entries have been illustrated mainly by building plans and elevations drawn according to Aegaron standards, as well as photographs taken during the field checking expeditions of the initial years of the Aegaron project (2011-2013).

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<sup>1</sup> Wendrich, Willeke (ed.). 2013. *Archaeology and Apprenticeship. Body Knowledge, Identity, and Communities of Practice*. Tucson: University of Arizona Press

## Project Activities

Two teams, one based in Los Angeles (UCLA) and one in Cairo (German Archaeological Institute in Cairo) started by creating a list of terms which were deemed indispensable to illustrate the specific ancient Egyptian building methods, styles and types. During weekly meetings over Skype, the terminologies were compared. Not surprisingly, the translation and pairing of vocabularies led to intense discussions on the exact meaning and associations of each term.

The Cairo Team was responsible for selecting or creating images that illustrated the different terms. These were mostly derived from buildings which were published in Aegaron, but for some clusters of terminology additional buildings were drawn and added to the corpus. Links of the drawings and photographs to the geo-referenced building plans. The illustrations of terms are thus presented in their original settings which have a particular place and time. This helps to emphasize that architecture is in constant development, and shows regional differences. Contrary to its timeless appearance, pharaonic architecture underwent sometimes obvious, sometimes subtle but nevertheless important changes in architectural details. These reflect the underlying concepts of architecture, space, art, mathematics, building technique, symbolism and religion.

The Los Angeles team provided constant feedback on the master list of terms and the English equivalents. For each language a preferred term was defined, as well as a number of alternatives. It regularly was concluded that the English preferred term was not a literal translation of the German or Arabic preferred term. An example is:

preferred EN	preferred German	preferred Arabic	alternative EN	alternative German	alternative Arabic
unfired brick	Lehmziegel, der (m.)	طوب غير محروق	mudbrick; air-dried brick; adobe	(ungebrannter / luftgetrockneter) Nilschlammziegel, der (m.)	طوب لبن طوب مجفف بالهواء طين كمادة بناء

Defining the term hierarchy likewise showed a difference in conceptualization underlying terms in different languages. In many cases a term in one language has one “parent”, while in another language the term is broader and belongs to multiple “parents”. An example is

Linking to the Getty Art and Architecture Thesaurus proved to be only partially useful, because the semantic contexts of the terms were very different and the most typical Egyptian terms were not included in the AAT.

Determining the metadata proved a very complex matter, because the structure of the new IST section of the Aegaron webpage needed to be fitted in an existing structure, geared towards making drawings viewable and downloadable. IST required a very different search and metadata structure and yet, an important part of the project was to maintain the connection between terms and actual buildings.

It is by now well-known that web-based interfaces have a limited lifespan. With the upgrade of the browsers and added functionality, webpages look outdated after a few years, or simply stop working. Experience at UCLA with earlier digitally-born projects, such as the UCLA Encyclopedia of Egyptology (UEE) has made the team fully aware of this. It was decided that the solution for Aegaron, as with the UEE, was to create a split between back end and front end. The back end consists of a repository, the UCLA Digital Library Collection Service, which holds the plans, with extensive metadata that are driving the view and search platform. For Aegaron-IST the illustrations were considered the main asset, and the terminology was added as metadata. Each image was provided with the following metadata:

ArkID number (unique identifier)	
Preferred term English	
Preferred term German	
Preferred term Arabic	
Alternative terms English	
Alternative terms German	
Alternative terms Arabic	
Parent terms English	
Parent terms German	
Parent terms Arabic	
Category:	technique material construction building type spatial lay-out architectural element technical term ornament
Illustration: place (UEE place ID)	
Illustration: site location (Aegaron)	
Illustration: plan/section/photo/drawing	
Illustration: source (Aegaron / Digital Karnak / UEE / other)	
Getty AAT link	

The front end, the interface, exists separately from the content and draws information directly from the library repository. This way the assets in the repository are stored in a sustainable way, while the interface can be redesigned as needed.

In 2014 the entire front end of Aegaron was reprogrammed by the UCLA team. The map-viewer for the Aegaron plans was completely re-designed especially for this project, but in such a way that it is re-usable for other projects for which spatial information is important. Instead of using Google Earth, which had caused problems because it would not allow a zoom level greater than the highest resolution of the Google Earth photographs, the map viewer is now based on Q-GIS. The project purchased high-resolution satellite photographs for those parts of Egypt where Aegaron buildings were located. This now enables users to zoom in on the Aegaron plans and compare the drawings in great detail. In compliance with requests from the UCLA digital library the entire website was redesigned in Drupal.

Since the DFG provided a grant for one year only, the Cairo team had to leave the project after the initial phase (2013-2014). At that point the list of terms had been defined in German and English (but not yet Arabic) and twenty new Aegaron plans had been produced to provide illustrations for the selected terms. For the second year (2014-2015), and the one year extension (2015-2016) the UCLA team finished the work, by geo-referencing all the satellite photographs and maps, collecting and inputting all metadata and design a user test for the site.

In January 2016 the development site, programmed in Drupal, was fully functional. The winter and spring quarter were reserved for checking, refining, and user experience testing, with the objective of making the site generally available on June 1, 2016. Unfortunately, due to changes to the Digital Library backbone, the development site lost connection with the metadata, plans and terminology. At present none of the plans can be viewed or downloaded through the re-programmed map viewer, and the terminology search and browse functions likewise show as broken links. Even though the library is aware of the problem and has tried to find a quick fix, the situation is unfortunately that the site is temporarily non-functional. After the new library repository has been completely set up and tested, the next step is to relink the interface to the back-bone. We hope that this will be accomplished in the Fall of 2016, after which the site will be moved from the development to the production server and made available.

## Accomplishments

The “old” Aegaron site <http://dai.aegaron.ucla.edu> is still functional, but does not incorporate the terminology or the latest standardized plans. The temporary break of the library connection means that the fine tuning and user testing could not be performed as planned, even though UCLA had made considerable extra funds available for this part of the work. Since these funds will remain available, the last remaining tasks will be finalized as soon as we have access to the full site again.

Because of this set-back we cannot report clear results or accomplishments. We do, however, regularly get compliments and grateful comments about the plans, CAD files and information accessible through the original Aegaron site.

Over the course of the grant the American team has brought the Aegaron project to the attention of Egyptologists, archaeologists and digital humanists at several international conferences:

- Digital Humanities 2015 in Lausanne
- International Conference of Egyptologists 2016 in Florence.
- Annual meeting of the American Research Center in Egypt 2016 in Atlanta

When the new Aegaron-IST site finally will go live we will organize a small conference together with members of the Cairo team (who by now have dispersed) to draw attention to the site and what it contributes to scholarly discourse. An article on the challenges of translation, and the problems of creating a website which avoids the suggestion that terms are fully equal, is in preparation.

## Evaluation

The project proposal did not include formal evaluation plans or criteria. The launch of the beta-version of the site on May 20, 2013 saw the first intense use. The reactions of the public were very positive, even though as indicated above, there are problems with the zoom function of the site comparison, due to particular settings in Google Earth which cannot be changed.

## Continuation of the Project

Although at this moment we need to still solve the connection problems with the new Digital Library system, the set-up we chose (an independent front-end that links to a repository which holds the assets and metadata) is geared towards long-term sustainability.

## Long Term Impact

The Aegaron Project is part of a series of successful Digital Humanities projects at UCLA which involve the Center for Digital Humanities (CDH), the Institute for Digital Research and Education (IDRE) together with the Library. These projects are coordinated by a steering group and the experience and lessons learned are used to aid other faculty within and outside UCLA in developing similar initiatives. The group of faculty actively involved in Digital Humanities projects is steadily growing and has taken the initiative to start a Digital Humanities undergraduate minor and a graduate certificate program (see <http://www.cdh.ucla.edu>). The activities of the PI have led the Dean of Humanities to name her director of the Center for Digital Humanities. This 3-year position was extended with a year until starting June 30, 2017 with the explicit assignment to generate broad support for digital scholarship beyond the humanities in the social sciences; art and architecture; school of music; law school; applied mathematics; theatre, film and television; information studies and informatics.

The interface developed for Aegaron is currently used for other projects that need to present visual map based information. Most of all, however, Aegaron is an example of a non-traditional publication of research results with an interface that is adapted to its unique properties (layered maps, drawing logs and terminology).

## Grant Products

The most important product coming out of this grant is the Aegaron website, which enables a comparison of drawings and makes the standardized drawings available to the public for free download, at <http://dai.aegaron.ucla.edu/>.

The recently developed new interface provides users with a large number of features specifically designed for the study of architectural drawings, such as the comparison screens, a linked zoom and rotation function and overlay of high resolution satellite photography to show the buildings in their geographical and landscape context.